

WHAT IS CLAIMED IS:

1. A semiconductor device including a surge protection circuit electrically connected to a signal input terminal and having a diode and a transistor, comprising:

- 5           a semiconductor substrate having a main surface;  
          a field oxide film formed at the main surface of said semiconductor substrate; and  
          a conductive layer formed on the main surface of said semiconductor substrate and electrically connected to said signal input terminal,  
10           said diode having its cathode including a first cathode region and a second cathode region, said first cathode region being electrically connected to said conductive layer and formed at the main surface of said semiconductor substrate, and said second cathode region constituting, together with an anode region of said diode, a pn junction where Zener breakdown occurs, and  
15           said pn junction where the Zener breakdown occurs being distant from said field oxide film.

2. The semiconductor device according to claim 1, wherein  
          said cathode and a collector of said transistor are electrically connected to said signal input terminal, and said anode and a base of said transistor are formed to be of the same conductivity type and electrically  
5           connected to each other.

3. The semiconductor device according to claim 1, wherein  
          said second cathode region is formed to cover a side or upper surface of said anode region.

4. The semiconductor device according to claim 1, wherein  
          said anode region is formed to cover a side or upper surface of said second cathode region.

5. The semiconductor device according to claim 1, wherein said anode region and said second cathode region constituting the pn junction where Zener breakdown occurs are both formed within an epitaxial layer formed in said semiconductor substrate.

6. The semiconductor device according to claim 1, wherein a collector of said transistor has an epitaxial layer formed in said semiconductor substrate and a diffusion layer formed in said epitaxial layer, and said diffusion layer has a higher impurity concentration than that of  
5 said epitaxial layer.